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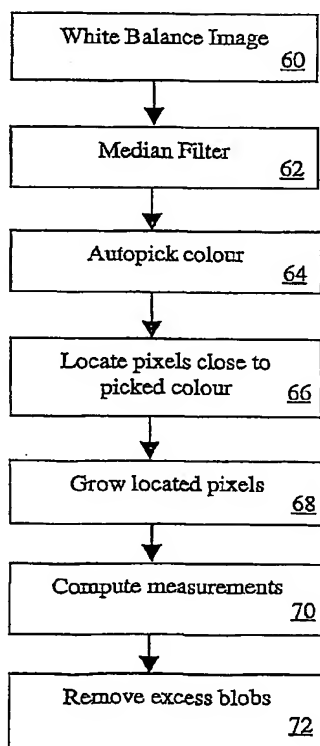
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(54) Title: MEASUREMENT OF MITOTIC ACTIVITY



Mitosis Feature Detection

(57) Abstract: A method of measurement of mitotic activity from histopathological specimen images initially identifies image pixels with luminances corresponding to mitotic figures and selects from them a reference pixel to provide a reference colour. Pixels similar to the reference colour are located; image regions are grown on located pixels by adding pixels satisfying thresholds of differences to background and image region luminances. Grown regions are thresholded in area, compactness, width/height ratio, luminance ratio to background and difference between areas grown with perturbed thresholds. Grown regions are counted as indicating mitotic figures by thresholding region number, area and luminance. An alternative method of measuring mitotic activity measures a profile of an image region and counts the image region as corresponding to a mitotic figure if its profile is above a threshold at an intensity associated with mitotic figures. A mitotic figure is also indicated if the profile does not meet the previous criterion but has three other values satisfying respective threshold criteria.

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